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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,123	04/01/2004	Zheng Zhang	571-932	8039
1059	7590	05/17/2006	EXAMINER	
BERESKIN AND PARR 40 KING STREET WEST BOX 401 TORONTO, ON M5H 3Y2 CANADA			PENG, KUO LIANG	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/814,123

Applicant(s)

ZHANG ET AL.

Examiner

Kuo-Liang Peng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/21/06 Amendment.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39 and 62-73 is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-10, 38, 40-45 and 47-61 is/are rejected.
- 7) ☒ Claim(s) 6-7, 11-37, 46, 74 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Applicants' amendment filed on February 21, 2006 was received.

Claim 18 is amended. Now, Claims 1-74 are pending.

2. Claim objection(s) in the previous Office Action (Paper No. 101505) is/are removed.

3. In view of Applicants' argument (Remarks, page 17, 2nd paragraph), claim rejection(s) under 35 USC 102 in paragraph 8 of the previous Office Action (Paper No. 101505) is/are removed.

4. The text of those sections of Title 35, U.S. code not included in this action can be found in prior Office Action(s).

Claim Rejections - 35 USC § 103

5. Rejection of Claims 1-5, 8-10, 38, 40-45 and 47-48 under 35 USC 103(a) as being unpatentable over Nakanishi688 (US 5 009 688) in view of Gill (J. Am. Chem. Soc., (1998), 120, 8587-8598) is maintained because the rejection is

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adequately set forth in paragraph 9 of Paper No. 101505. Applicant's arguments have been fully considered but they are not persuasive. The focus argument related to the core patentability is discussed below.

For Applicants' argument (Remarks, page 18, 2nd paragraph to page 19, 2nd paragraph), note that arguing Applicants' material is suitable in chromatography application appears to be improper. See MPEP 2145 (II). In addition, it appears to be improper to attack references individually. See MPEP 2145 (IV). Especially, Gill is in the same field as that of Nakanishi688's endeavor. Although Gill does not explicitly teaches the use of Applicants' polyol silane precursor, as mentioned above, Gill does teach the advantage of using glyceryl groups as compared to lower alkyloxy groups for making sol-gel product. Furthermore, note that Gill's poly(glyceryl silicate) is an intermediate when Applicants' polyol silane precursor is partially hydrolyzed/condensed. Therefore, one of ordinary skill in the art would know to replace Nakanishi688's lower alkoxy groups with glycerol groups. See MPEP 2144.01.

For Applicants' argument (Remarks, page 19, 3rd paragraph), it is noted that the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same

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advantage or result discovered by applicant. *In re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972) (discussed below); *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), *cert. denied*, 500 U.S. 904 (1991) See MPEP 2144.

For Applicants' argument (Remarks, page 19, 4th paragraph to page 20, 2nd paragraph), at least for the following reason, contrary to Applicants' conclusion, there is a strong reason for combining Gill with Nakanishi688: As Applicants noticed that Nakanishi688 concerns the reproducibility of the final products. Gill teaches that by utilizing polyol (e.g., glyceryl groups) as the hydrolyzable groups, reproducibility of the product is greatly improved. (page 8588, left column)

For Applicants' argument (Remarks, page 20, 3rd paragraph), note that clearly Nakanishi688 teaches the porous gel can be used as it is. Again, the motivation of combining Gill with Nakanishi688 is described previously.

For Applicants' argument (Remarks, page 21, 1st paragraph bridging to page 22, 5th paragraph), Applicants indicate that the attached declaration under 37 CFR 1.132 shows that Gill's polyglyceryl silicates does not produce bimodal meso/macroporous siliceous materials when used in combination with a water soluble polymer in the methods as claimed in the present application. However, it is noted that the bimodal characteristics is not claimed. Even if claimed, Applicants

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are advised to provide the exact methods/conditions of the **experiments mentioned in declaration**. It is noted that in addition to Applicants' aforementioned experiments, the experiments **commensurate with the methods of Nakanishi688 in view of Gill** are needed.

6. Rejection of Claims 1-5, 8-10, 40-45, 47-52, 54-55 and 56 under 35 USC 103(a) as being unpatentable over Nakanishi875 (US 5 624 875) in view of Gill (J. Am. Chem. Soc., (1998), 120, 8587-8598) is maintained because the rejection is adequately set forth in paragraph 10 of Paper No. 101505. Applicant's arguments have been fully considered but they are not persuasive. The focus argument related to the core patentability is discussed below.

For Applicants' argument (Remarks, page 23, 3rd paragraph bridging to page 24, 1st paragraph), it is noted that the bimodal characteristics is not claimed. Even if claimed, Nakanish875 teaches a siliceous material having bimodal pore distribution. (Abstract) In addition, it appears to be improper to attack references individually. See MPEP 2145 (IV).

For Applicants' argument (Remarks, page 24, 2nd paragraph bridging to page 25, 1st paragraph), arguing the advantage of Applicants' material having bimodal

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characteristics which is particularly useful in chromatograph application appears to be improper. See MPEP 2145 (II).

For Applicants' argument (Remarks, page 25, 2nd paragraph), Applicants primarily argue that Nakanishi875 does not teach the desirability of the use in any form of biologically compatible materials in the preparation of silica. However, this is not persuasive because Nakanishi875 teaches that the material are useful for separating blood or enzyme support. (col. 1, lines 5-21)

For Applicants' argument (Remarks, page 25, last paragraph to page 27, 3rd paragraph), Applicants indicate that the attached declaration under 37 CFR 1.132 shows that Gill's polyglyceryl silicates does not produce bimodal meso/macroporous siliceous materials when used in combination with a water soluble polymer in the methods as claimed in the present application. However, it is noted that the bimodal characteristics is not claimed. Even if claimed, Applicants are advised to provide the exact methods/conditions of the **experiments mentioned in declaration**. It is noted that in addition to Applicants' aforementioned experiments, the experiments **commensurate with the methods of Nakanishi875 in view of Gill** are needed.

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7. Rejection of Claim 38 is under 35 USC 103(a) as being unpatentable over Nakanishi875 in view of Gill and as evidenced by Barkin (US 3 374 103) is maintained because the rejection is adequately set forth in paragraph 11 of Paper No. 101505.

For Applicants' argument (Remarks, page 27, 4th paragraph to page 28, 2nd paragraph), note that Examiner's position is described in previous paragraph.

8. Rejection of Claims 53 and 57-61 under 35 USC 103(a) as being unpatentable over Nakanishi875 in view of Gill is maintained because the rejection is adequately set forth in paragraph 12 of Paper No. 101505.

For Applicants' argument (Remarks, page 28, 3rd paragraph bridging to page 29, 1st paragraph), note that Examiner's position is described in previous paragraph.

9. Claims 6-7, 11-17, 19, 21-37, 46 and 74 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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10. Claims 18 and 20 would be allowable if rewritten to overcome claim objection, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Allowable Subject Matter

11. Claims 39 and 62-73 are allowed.

12. The following is an examiner's statement of reasons for allowance:

None of the above references, taken alone or in combination, teaches or fairly suggests the use of a compound of Formula I set forth in the present invention.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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klp

May 12, 2006

A handwritten signature in black ink, appearing to read 'Kuo-Liang Peng'.

Kuo-Liang Peng
Primary Examiner
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